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Graduate Instruction via Telephone.
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Sixty-nine teachers in 14 school districts were taught reading diagnosis by telephone in a study to determine whether the telephone can be used to spread instruction over a wide area. Sixty-one of the student/teachers were tested against 15 others who received instruction in the conventional manner. Conclusions drawn from both studies were as follows: Students taught by telephone did as well as the others and, though they were disturbed by the fact that they could not see the instructor, felt that this disadvantage was offset by the convenience of the telephone system. The instructor declared that he had few difficulties after initial troubles of a technical nature had been eliminated. The telephone system was found to be a useful tool in graduate instruction and capable of being used to extend the influence of the college instructor to a wider audience. (GO)

EDO 32767

GRADUATE INSTRUCTION

VIA

TELEPHONE

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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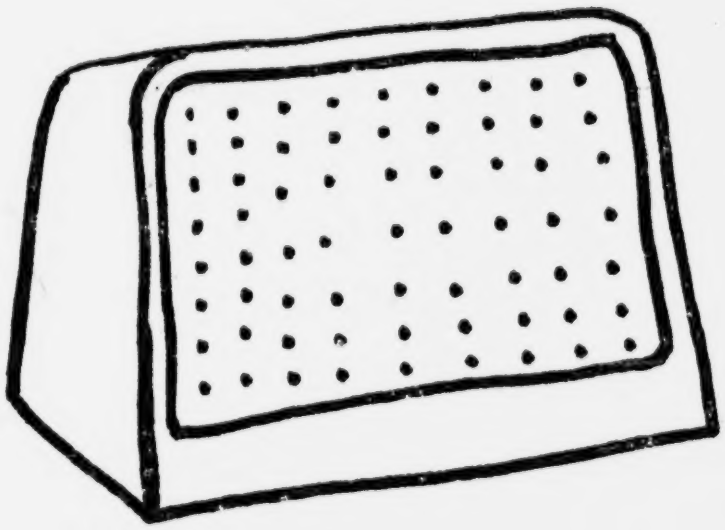

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FINGER LAKES REGION SUPPLEMENTARY EDUCATIONAL CENTER

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Jack Kampney

A NOTE OF THANKS....

This particular project received joint support from several sources. The communications system was developed and maintained as part of the Finger Lakes Region Supplementary Educational Center. Mr. Richard Finnegan and Mr. William Hogan of the New York Bell Telephone Company have given invaluable assistance to this phase of the project. Mr. Frank Kenczal of the New York Office of General Services aided in the initial implementation of the technical system.

Room facilities and projection equipment were donated by the participating school districts - Auburn, Cincinnatus, Cortland, Interlaken, Ithaca, and Lansing.

The instructional materials used by the teachers were financed through a special grant from the State University of New York. Dr. William R. Dodge, Acting University Dean of Continuing Education, was instrumental in procuring these funds.

The project owes a great debt to Dr. Iver Moe who agreed to take upon himself at no additional compensation the task of teaching this course in addition to his normal teaching load. The education profession is sorely in need of men who are so dedicated to the necessary tasks of developing, piloting and evaluating the unknown.

Ernest J. Rookey
Director, FLRSEC

The project described by this publication was developed and coordinated by the Finger Lakes Region Supplementary Educational Center, established under PL 89-10, E.S.E.A. grant #OEG-3-7-703900-5204.

FLRSEC Reading Course by Telephone

On March 21, 1968, the Finger Lakes Region Supplementary Educational Center, in cooperation with SUNY Cortland, 3 ECCES and 17 school districts, instituted a three-credit college level course entitled, "Analysis and Correction of Reading Difficulties."

This course was presented once a week in two-hour long sessions over a period of 15 weeks by a special network telephone arrangement with the New York Telephone Company. The instructor of the course was Dr. Iver Moe of the Reading Department of SUNY Cortland, Sixty-nine (69) teachers in the schools of the 14 participating districts were registered for the course to receive graduate credit from SUNY College at Cortland; an additional thirty teachers audited parts of the course. Dr. Moe drove to each receiving Center and met all the teachers face to face for the first session. The remaining sessions were entirely conducted using the telephone facilities.

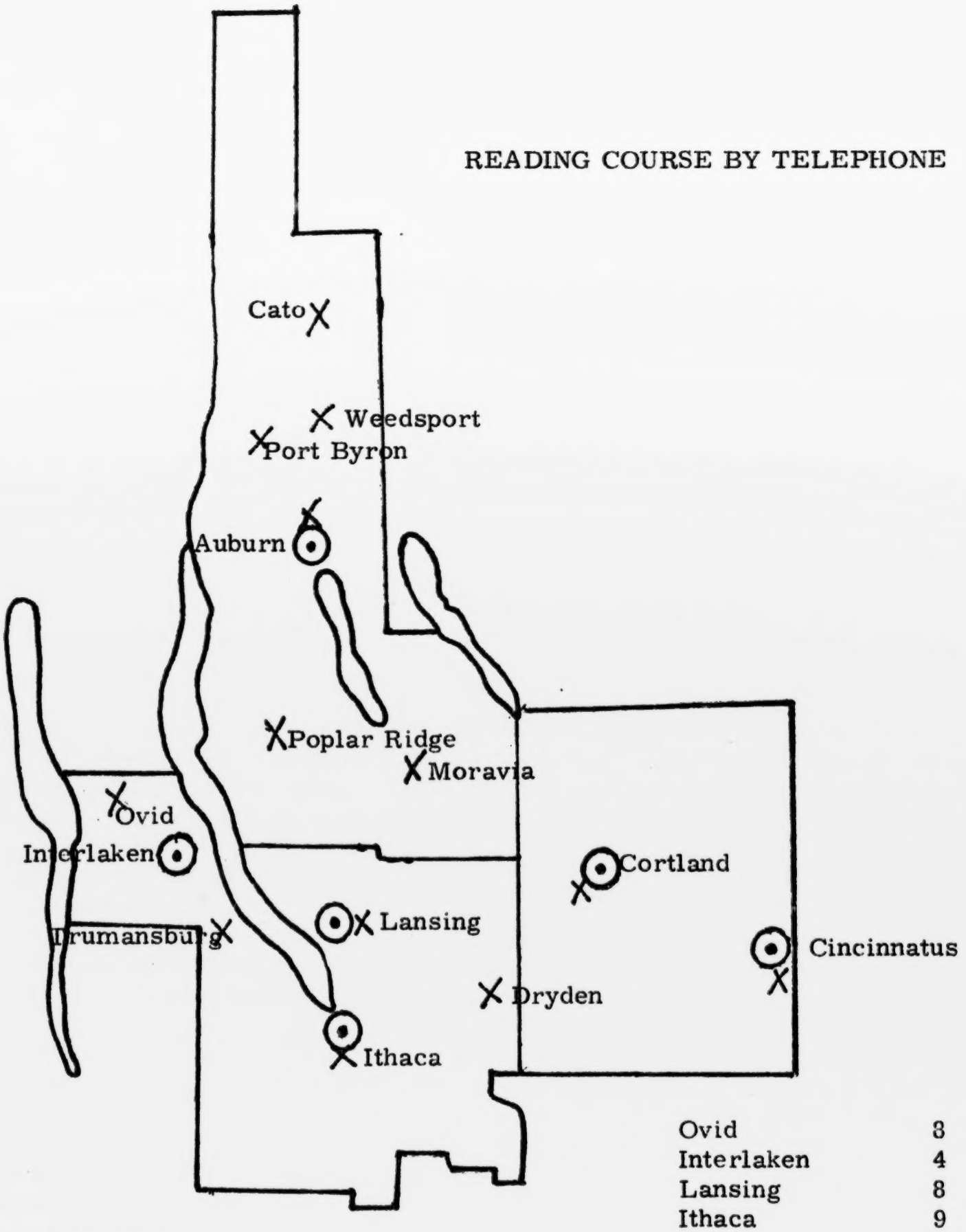
Technically, the network consisted of special telephone lines to six receiving centers as indicated in the accompanying diagram. All of the teachers taking the course drove each Thursday afternoon at four o'clock to the nearest receiving center rather than traveling much greater distances to the Cortland campus. Dr. Moe presented his lectures over a speaker phone system from the Cortland High School before a group of teachers who were participating there. Teachers in the other five centers received the lectures over loudspeakers and engaged in questions and discussions with Dr. Moe and other widely dispersed classmates.

There were a number of technical problems at the outset, mostly related to poor reception because of line interference or feedback through the speakers. However, these have been largely eliminated. There was no indication that any students dropped out of the course because of these technical problems, but if the problems had not been resolved, it is possible the teachers would not have stayed.

FLRSEC has been pleased with the cooperation of SUNY Cortland, the individual school districts and the New York Telephone Company and gratified by the enthusiasm of the teachers. The choice of course and instructor had been fortunate; Dr. Moe has a good sense of pace, an excellent telephone voice, sense of humor, and a course with a lot of substance which required considerable participation by the teachers. Printed materials and transparencies were transported weekly to the receiving centers for student use. The transparencies were projected in the usual fashion in each center.

The accompanying diagram indicates the principal school districts, the receiving centers and the numbers of registered teachers by their employing district.

READING COURSE BY TELEPHONE



⊙ = Receiving Centers

X = Participating Districts

Ovid	3
Interlaken	4
Lansing	8
Ithaca	9
Dryden	3
Cortland	2
Cincinnatus	5
Auburn	10
Trumansburg	2
Moravia	2
Cato-Meridian	7
Southern Cayuga	6
Port Byron	2
Weedsport	1
TOTAL	69

STUDENT PERCEPTICNS

In order to gauge the students' feelings about receiving instruction via the telephone system, the questionnaire on the following pages was administered to students taking the course for credit.

Fifty-one (51) questionnaires were completed and returned. Cf these returns, three (3) are generally negative in nature, six (6) are indifferent toward the telephone system, twenty-six (26) are favorable toward this method of instruction, and sixteen (16) are very enthusiastic. The complete returns on each question, as well as the written comments received, follow the sample questionnaire.

The reader will note the many references to the timing of this course. In order to have the complete telephone system installed, it was necessary to begin the course several weeks late. This caused the last six meetings to be given twice a week, instead of the normal single session. The last three meetings had to be presented in June when graduate classes would normally not be given.

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Each of the statements on this questionnaire expresses feelings which a particular person has toward the reading course in its various aspects. Please use space provided, i.e. Comment, to register feelings or thinking not included in instrument.

Please check those items with which you are in agreement.

I serve (as a classroom teacher)
(in a supervisory capacity) (check one)

Telephone System

1. Instruction via Telephone is:

____a. Useless
____b. As good as conventional method
____c. Difficult to follow
____d. Monotonous
____e. An excellent technique
____f. Enjoyable
____g. In need of technical improvement
____h. Better than conventional method
____i. To be preferred to instruction on campus
Comment_____

2. The Reading Course:

____a. Should not have been offered
____b. Was useful to me
____c. Was too comprehensive
____d. Was not sufficiently comprehensive
____e. Had clearly defined objectives
Comment_____

3. The Instructor's

____a. Presentation was well organized
____b. Presentation was clear
____c. Presentation was relevant
____d. Use of visuals was effective
Comment_____

4. Assuming I am interested in continuing my graduate studies, I would take another course via telephone:

____a. Only if absolutely necessary
____b. By choice
____c. Never
____d. In preference to course work on college campus
____e. Only if technical aspects were improved upon
Comment_____

5. The Course via Telephone:

____a. Provided a needed opportunity for continued education
____b. Provides for me the only possible avenue for continuing my education
____c. Should be used more
Comment_____

6. A preferable time for taking courses via telephone would be:

____a. Immediately after school day
____b. Evenings
____c. Free periods during school day
____d. During summers
Comment_____

FLRSEC was responsible for the distribution of materials, coordination of various aspects of reading course and the development of the telephone system used in the course.

We would appreciate your criticism and/or suggestions in order to help us improve our services in the future.

_____

_____

_____

_____

_____

_____

_____

_____

We appreciate time and effort expended in responding to this questionnaire.

We thank you.

JCP/sj

Instruction via Telephone is

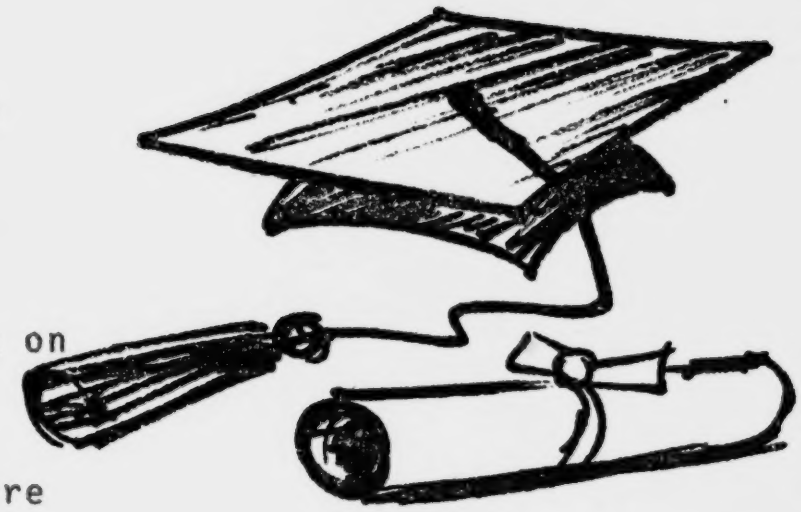
1	a.	Useless
15	b.	As good as conventional method
14	c.	Difficult to follow
10	d.	Monotonous
17	e.	An excellent technique
19	f.	Enjoyable
33	g.	In need of technical improvement
0	h.	Better than conventional method
13	i.	To be preferred to instruction on campus

Comment_____

This question and the following two questions were designed to measure the students' opinions of this method of teaching. A summation of their replies will be found after the third question.

Of the nineteen written comments, the majority (10) stated that the course was extremely convenient in time and accessibility. Two students commented on the sound quality--that it was generally good, but there was occasional static. Two students suggested that the calls could have been set up earlier in the day to save additional time at the beginning of the class. Three students gave generally favorable comments, while one student voiced a generally unfavorable perception of the method.

I Would Take Another Course via Telephone



2 a. Only if absolutely necessary

27 b. By choice

1 c. Never

20 d. In preference to course work on a college campus

11 e. Only if technical aspects were improved upon

Comment_____

This was the second of three questions designed to measure the students' feelings toward this method of instruction.

The responses generally explained the reasons for the students' checked choices. Six of the eleven responses indicated that they preferred this method because of the convenience. One respondee commented that she would probably not take another course as she planned to retire. Three students wrote that they would take a course only if it was useful and met their objectives; and one student indicated he would take such a course again if it ended before June 1.

The Course via Telephone

32 a. Provided a needed opportunity for continued education

8 b. Provides for me the only possible avenue for continuing my education

28 c. Should be used more

Comment_____

This was the final question regarding the system of instruction via telephone lines.

Three of the four respondees expressed positive responses to this method of instruction. The remaining comment was a suggestion that other courses from other colleges should also be offered via the telephone system.

The responses to these three questions indicated that most of the teachers felt that instruction via the telephone system is a justifiable alternative to instruction on campus. They felt that the convenience and informality of the new method more than made up for the minor technical problems encountered and the lack of eye contact with the instructor.

The Reading Course

0	a.	Should not have been offered
40	b.	Was useful to me
18	c.	Was too comprehensive
6	d.	Was not sufficiently comprehensive
16	e.	Had clearly defined objectives

Comment_____

The purpose of this question was to record the students' feelings about the course itself.

Fifteen students commented. Four of the students suggested that the course should have followed the conventional schedule and ended before June 1. Three students noted that the course had too much information for the time involved. Two students stated that they had had insufficient preparation in their background; two felt that the course might be too difficult for the telephone system. Two respondents said that the course's objectives could have been more clearly stated. One student indicated that this course was as good as any he'd ever taken; and one noted that the technical problems did not really bother the content of the course.

In summary, the teachers overwhelmingly felt that this was a useful course, that its objectives were clear and it was justified in being offered at a graduate level.

The Instructor's

19 a. Presentation was well organized

22 b. Presentation was clear

25 c. Presentation was relevant

15 d. Use of visuals was effective

Comment_____

The purpose of this question was to gauge the students' feelings toward the instructor of the course and how he handled this new teaching technique.

The respondents commented on the instructor's patience, consideration and general sense of humor. They felt, however, that better use of visuals could have been made during the course. Eleven students noted that the instructor occasionally became too repetitious.

These responses warrent the conclusion that this course was taught by an excellent instructor and that it was a fair pilot to test the telephone teaching method. The comments show that new methods of visual presentation will have to be developed to augment this method of teaching.

A Preferable Time For Taking Course

35 a. Immediately after school day

12 b. Evenings

5 c. Free periods during school day

8 d. During summers

Comment_____

This question offered the students the opportunity to indicate their preference for the best time for a graduate level course. This question was weak in that teachers who might have responded differently probably did not take this course as it was offered immediately after the school day. This same question should be asked of a wider population. Until such a survey is undertaken, no conclusions will be drawn.

WE WOULD APPRECIATE YOUR CRITICISM

and/or SUGGESTIONS

Forty-two responses were received. Twelve of these were in appreciation for the opportunity to take this course. Seven respondees indicated that the course was fine, but that the time of year was most difficult for the teachers. Six responses cited the difficulties in beginning the course on time because of telephone connections and suggested that this could be easily solved. Three respondees stated that the room in their center was poor for this purpose (all three were in the same receiver room). Technical problems such as static and poor connections were noted by three students. Three stated that distribution of materials could have been better, while another three noted that distribution was excellent. Three students asked for more courses. One student suggested that someone be appointed at each school to coordinate the telephone system; and another asked that additional centers be used in the future.

To: Ernest J. Rookey
Director, FLRSEC

From: Iver L. Moe

Date: August 1968

I am fortunate to have had the opportunity to teach Analysis and Correction of Reading Difficulties by telephone. For the greater part, excellent cooperation was given to me during the fifteen presentations by wire. In addition to the cooperation of FLRSEC, our department secretary and the student assistant assigned to me cheerfully accomplished a tremendous task related to the duplication and packaging of well over 17,500 pages of visual material used in the course.

Dr. Ross Allen, Dean of Graduate Studies and Research, assisted materially by securing funds from the State University headquarters at Albany to help defray the cost of certain materials used in the course. The Audio-Visual Services at Sperry Learning Resources Center televised a series of diagnostic interviews and then transferred these to video tape which will enable us to show these interviews on a 16mm. projector.

So far as can be determined by questionnaires, the course was generally well received. A number of helpful criticisms were made by the telephone class which will be taken into account if another attempt is made to teach this course by wire. Since this was my first experience with this type of teaching, I was apprehensive. My main concern was that of timing. When students are present in the classroom the professor receives a wide variety of non-verbal communications such as a nod, a questioning look, degree of attention, etc. This, of course, is denied the instructor who works "before" an unseen audience. Because of relatively few questions asked by students from various centers, I was able to include more units in my presentation as compared with on-campus classes. Probably the students refrained from asking questions since these would be heard by all centers. Observers at the various centers, however, stated that much discussion by the several groups was observed. In each center certain students assumed leadership in clarifying concepts and discussing the presentations as they sat in the classroom having coffee and sandwiches during break time. Even during presentations students were observed assisting one another when confusion arose with regard to the particular visual being discussed. Most of these visuals were informal and published diagnostic tests and graphically illustrated research data.

Six projects were required of each student -- five diagnostic efforts with children and the construction of an original informal diagnostic test. In general, the projects from the

telephone group compared favorably with the efforts of the on-campus group. Analysis of test data is not complete at this writing but an informal comparison of the mid-term examination data indicated no significant difference between the means of on-and-off-campus groups. Perhaps a more sophisticated treatment of test data will lead to a different conclusion.

Only one telephone student has, thus far, enrolled in our follow-up course, "Laboratory in Corrective Reading." She enrolled this summer and demonstrated a good knowledge of diagnostic procedures. Perhaps many more telephone students will take laboratory, in which case I shall be better able to evaluate the results of the course by wire.

It is more difficult to teach via telephone and at this writing, I prefer on-campus classes. However, if this and other courses prove to be effective after careful evaluation, students will enjoy the advantage of remaining near home to take courses rather than traveling, often under dangerous driving situations, to the college. If I were to teach again by telephone the experience gained during the spring semester should result in better presentations and more concise preplanning.

Iver L. Moe

ILM:sb

AN ANALYSIS OF THE ACHIEVEMENT OF THE TWO GROUPS

In order to assess the potential of teaching via telephone, the following design was utilized. Two groups were taught the course, "Analysis and Correction of Reading Difficulties." One group consisting of fifteen students, was taught on the Cortland campus using traditional teaching methods. A second group, consisting of sixty-one students, participated in the same course taught by telephone. This second group was exposed to an enriched version of the course. All students were examined twice, at mid-term and at the end of the course.

The mid-term exam results were as follows:

	Traditional	Telephone
Number of Students	15	61
Maximum Possible Score	290	290
Range	98	134
Median	239	223
Mean	220	220

The means of the two groups at mid-term were equal, indicating no difference in achievement.

The final exam for the telephone group was longer than that administered to the campus group necessitating an adjustment of the longer test, i.e. the deletion of items not included in the test of the campus group. The resulting final grades were as follows:

	Traditional	Telephone
Number of Students	15	61
Maximum Possible Score	215	215
Range	40	129
Median	166	152
Mean	167	147.5

In order to test our hypothesis that the difference of the means of our two treatment groups would be zero, we subjected the above data to a "t" test. The "t" value we obtained was .338, a value considerably below that required for rejection of the above hypothesis.

The experimental results show that the achievement of the telephone group compared favorably with that of the campus group.

The technique of teaching by telephone has been established as an effective teaching method; a method that should be applied to other areas.

Summary and Conclusion

This study investigated the possible use of a telephone - lecture system as a means of extending a college professor's lectures to a wider audience. The factors to be considered in such a study area are student achievement, student attitudes, and instruction difficulties. Each of these factors were investigated during the study. Students were found to achieve as well using this method as conventional methods. The students indicated some negative effects because of loss of eye contact; however, these effects were more than made up by the positive influence of the convenience afforded by the telephone system. The instructor indicated that he had few difficulties once the telephone system was working well. One potential problem pointed out by the study was the possibility of one instructor being "loaded" with too many students to efficiently grade papers, meet in personal conferences, and investigate individual projects. However, this problem has been successfully delt with when encountered in other such situations.

It is the conclusion of this investigator that the telephone - lecture system is a useful tool in graduate instruction and can be profitably used to extend the influence of college instructors to a wider audience.